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AUTHOR Patriarca, Linda A.; Cegelka, Patricia Thomas
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ABSTRACT

This paper describes research needs in light of changes taking place in school-based practice in both general and special education. The tenets of educational reform and societal concerns fueling demands for reform are identified. The context in which changes in educational practices are occurring is described, focusing on evolving relationships among educators, schools, and researchers. Implications of reform for school reorganization and for restructuring teacher education and personnel development are considered. A discussion of how research on school-based practices is conducted argues that the dichotomy between research and practice is counterproductive and that significant improvements in teaching and learning would be achieved through coordinated research projects involving both teachers and researchers, and the development and documentation of effective school-based practices. (Contains 28 references.) (DB)

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# The School as the Center of Educational Reform: Implications of School-Based Practice for Research

Linda A. Patriarca
Michigan State University

Patricia Thomas Cegelka
San Diego State University

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## Abstract

In this paper we describe research needs in light of the sweeping changes taking place in school-based practice. First, we identify the tenets of educational reform and the societal concerns fueling demands for reform. Next, we sketch the context in which changes in educational practices are occurring, describe the evolving relationships among educators, schools and researchers, and discuss the need to create and infuse new knowledge about teaching and learning into existing practices. We then explore the implications of reform for school reorganization and for restructuring teacher education and personnel development. Finally, we conclude with a discussion of the need to change the ways research on school-based practices is designed and conducted. In essence, we argue that the dicotomy between research and practice is counterproductive. We call for coordinated projects of research which bring together researchers with expertise in various methodologies to tackle different, but complementary problems in a domain of inquiry. Such projects would involve **both** the development and documentation of effective school-based practices, and would include teachers as

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partners in the design, implementation, and documentation of new knowledge. This, we contend is needed to achieve significant improvements in teaching and learning.

## Context of Evolving Research Needs

Sweeping reforms in the structures and practices of our nation's schools are certain to impact the education provided to all students, including those served by special education. Several societal concerns are fueling these demands for reform. One concern emanates from fears that schools are not adjusting their education to produce the skilled and creative workforce that American business of the 21st century will need to retain its competitive position in the global economy. A second (and related) concern stems from national and international achievement test results which suggest that students are not developing the understanding of subject matter needed to apply knowledge and utilize information in ways that business and industry will require in the coming years (American Association for the Advancement of Science, 1989). A third concern arises from the demographic changes in society. A greater proportion of America's student population is non-white, poor, coming from families whose primary language is not English, and being raised in single-parent homes.

In response to these concerns, business executives, educators and policymakers have developed agendas for change and launched reform initiatives. Reform recommendations have focused on improving: (a) teaching and learning for K-12 students; (b) the

preservice and inservice education of educators (teachers, administrators, counselors, etc.); and (c) the organization and management of schools.

During this same time period, the field of special education has been engaged in an introspective assessment of its own policies and practices. Professionals, dissatisfied with what they viewed as the unintended, but negative consequences of the implementation of Public Law 94-142, criticized the organizational and funding systems which labeled students and educated them in segregated special education settings. Proponents of the movement, initially referred to as the Regular Education Initiative or "REI" argued that all students should be integrated into the educational mainstream and that the system should be restructured to accommodate such integration (Biklen, 1985; Lipsky & Gartner, 1989; Stainback & Stainback, 1991).

Although reformers in general and special education may differ in their approach or what they choose to focus on in reforming education, they do share some underlying premises. All agree that reforming our educational institutions is a difficult and high risk endeavor requiring a massive and coordinated effort of **coalition building** across societal sectors as well as a comprehensive and thriving culture of **collaboration** within the profession at every level. **Coalition building across professions** involves establishing partnerships with business and government to provide, among other things, economic and political support for long-term, large-scale reform efforts. **Collaboration within the profession** involves the establishment of

partnerships between universities and schools to improve teaching and learning, enhance the preparation of prospective teachers and restructure schools (Carnegie Forum on Education and the Economy, 1986; Holmes Group, 1986). It also requires increased collaboration between classroom teachers and teachers in entitlement programs (e.g., Chapter I, bilingual education, special education) to eliminate separatism and create a more unified system of service delivery (Reynolds, Wang, & Walberg, 1987). Increased levels of collaboration also have been called for between general education and special education applied researchers (Reynolds & Wang, 1983).

## School-Based Practice as the Focus of Reform

Achieving such widespread changes in schools and systems will require new relationships between schools and the people who work in them as well as new relationships between/among teacher educators, researchers, and teachers. A fundamental goal is to transform the profession of teaching from an isolated, individual enterprise to a collaborative one which fosters experimentation and creation of new knowledge in settings where such change is supported. Johnson and Pugach (1992) view the emphasis on professional collaboration in educational reform as a bridge which can effect the merger of general and special education if, as they predict, such efforts result in the construction of heterogeneous classes more capable of meeting the diverse needs of children. Many futurists view such collaboration as prerequisite to achieving

the successful school of the 21st century: one that produces liberally educated young people who can, under conditions of uncertainty, work responsibly, negotiate within a community of interests, and learn from and collaborate with one another (Skrtic, 1991; Reich, 1990).

In sum, the school is the center of reform efforts, and school-based practice is at the heart of the reform. Such reconceptualizations of the purposes and meaning of school have rather profound implications not only for teaching, but for research as well. These changes, in turn, have implications for the way that teachers, teacher educators, and researchers conceptualize and conduct their work. As we examine the paucity of school-based instructional research in special education (MacMillan, Keogh, & Jones, 1986; Semel, 1987) against this backdrop of dramatic change, the need to develop and research effective school-based practices has never been greater.

## Implications of Reform for Research on Teaching and Learning

Over the past 15 years, research in cognitive science and education have provided us with new and important knowledge about teaching and learning. For instance, we have more powerful definitions of **learning** which inform us that the essence of learning is to link new information to prior knowledge and that "good" learners use a variety of cognitive and metacognitive strategies for making these critical connections. We also know

much more about the processes of **teaching** that effect conceptual change in students. Called "strategic teaching," it refers to a role and a process in which the teacher considers four variables in developing instruction--characteristics of the learner, material to be learned, criterial tasks and learning strategies. "Good" teaching involves identifying content priorities and relating them to learning, developing effective instructional strategies for making critical learning connections, and relating assessment to instruction and learning (Jones, Palinscar, Ogle, & Carr, 1987).

Such advances in our knowledge base, although insufficient and incomplete, do provide a solid base upon which to draw in initiating needed changes in our educational system. Thus, one major thrust of needed research in school-based practice is to **transform** the knowledge we do have into practice. We need multiple studies which document attempts to integrate current knowledge into existing practice, to study what it looks like in diverse settings, and document what outcomes result from this infusion of research-based knowledge in real classrooms.

In addition to infusing current knowledge into practice, we also need to create **new** knowledge about teaching and learning through school-based research focused on practice. The agenda for inquiry in this case grows out of the daily work of teachers and students and is defined as the common task of both university and school faculty (Holmes Group, 1990). It encompasses such broad topics as representing subject matter ideas in ways which promote understanding among diverse learners, assessing conceptual change in students, developing more contextualized, authentic

assessments which inform instruction, determining student views of the content and processes of instruction (including awareness of their own role in learning), and evaluating classroom processes from the perspective of classrooms as learning communities.

As K-12 teachers assume more responsibility for educating an increasingly diverse student population, we must also examine how, and in what ways, increases or decreases in net resources per class (e.g., class size, use of paraprofessionals) and/or adoption of particular instructional technologies affect the achievement of all students--particularly those considered difficult-to-teach.

## Implications of Reform for Research on Organizations

Although transforming current knowledge into practice and generating new knowledge about teaching and learning are critical ingredients of successful reform, they will prove insufficient if unaccompanied by concomittant changes in the ways that schools are organized and managed (Sarason, 1983; Skrtic, 1991). Skrtic (1987, 1988) argues that the organizational structure of schools--not unwilling teachers or unable students--is the greatest impediment to successful school reform. In a recent interview, Skrtic reminds us that bureaucratic institutions are not designed to individualize services, but to standardize them. Consequently, he advocates transforming present school structures into adhocracies--ad hoc teams of professionals formed within schools dedicated to improving, individualizing, and personalizing learning for all youngsters (Thousand, 1990).

Schlechty (1990) characterizes the transformation which needs to take place in schools as moving from an assembly line model of education where curriculum is viewed as a body of lore to be passed on to students to one where curriculum is a body of material to be processed, molded, and formed by students. In this new organization, which he calls a "knowledge work organization," teachers become both inventors and leaders. Principals and superintendents become ". . . leaders of leaders, creators of conditions in which other leaders thrive and developers of leaders. . . ." (pp. 43-44).

Principals and superintendents are not the only administrative personnel who will need to make substantial shifts in roles and responsibilities. School boards, central office administrators, and staff development personnel must also change to support school-based improvement (Caldwell & Wood, 1988). In the words of Sirotnik and Clark (1988), schools must become **centers of change** rather than targets of change which function as **centers of inquiry** rather than as sites of study. Administrators, then, in conjunction with school and university faculty, must experiment with and document new forms of organization and new forms of leadership which support the school as centers of change devoted to generating and using knowledge. Studying the processes and effects of such initiatives as: (a) involving parents, students, teachers, and administrators in planning school-wide goals; (b) decentralizing decision-making to give local schools more control over curriculum, professional development, staffing, scheduling, and expenditures of resources;

(c) experimenting with current service delivery models such as eliminating tracking in secondary settings, integrating special education students into general education classrooms, or reconceptualizing entitlement programs; and (d) building professional cultures of collaboration among various professionals within schools and communities to support positive changes in teaching and learning are among the sorely needed areas of research.

## Implications of School Reform for Research on Teacher Education

A classic problem in teacher education has been the decoupling of coursework and practica. All too often, the knowledge prospective teachers acquire in their coursework about curriculum and instructional methods is not being utilized in the classrooms in which they are placed. Consequently, they do not see how the knowledge learned in coursework is relevant and useful to practice. An even more dismal scenario occurs when the practices they observe conflict directly with those promoted by the college/university and supported by research data. Situating teacher education in schools where reforms are underway makes it possible to connect best practices to current theory and research in teacher education. Moreover, it allows for a more thorough and grounded investigation of how novices learn to teach. In these settings, we could track the development of teacher candidates over time on such diverse dimensions as: (a) beliefs about teaching, learning, and learners; (b) development of content and

pedagogical knowledge; (c) ability to organize classrooms for effective instruction; (d) skills in orchestrating discourse; and (e) capacities for reflecting on and evaluating one's own teaching. If we link the changes we observe in prospective teachers' beliefs, skills, and capacities directly to the learning opportunities afforded them in school-based practice, we can construct a knowledge base on which to build good problem-based clinical teacher education.

In addition, if we hope to produce teachers who will participate in the design and execution of research as well as benefit from new knowledge generated by research, then research must play a prominent role in our preservice preparation programs. Lewis and Blackhurst (1983) argue that teacher candidates need to develop a basic understanding of the **content** of research (e.g., the findings of empirical studies), the **processes** of research (e.g., measurement, research design, etc.), and the **application** of research (e.g., design, completion, and dissemination of actual research) in order to make rational, data-based decisions about the conduct of their classrooms, systematically address classroom challenges, and evaluate new approaches, materials, or programs. Others argue (Cochran-Smith, 1991) that the only way to prepare prospective teachers to confront, address, and document the dilemmas and successes in teaching is to place them with experienced teachers who are working to reform teaching in specific situations inside of schools, who are raising questions about their own situations, and who are studying their own practice. These different perspectives demonstrate the disparate

views which exist in our field today and underscore the critical need for research on teacher education.

## Implications of School Reform for Conducting Research: Diversifying Methodology and Roles

As new service delivery structures evolve, student diversity widens and educational requirements increase, we must expand and, in some cases, rethink our notions about what constitutes "good" educational research. Traditional educational research paradigms have emphasized quantifiable observations which lend themselves to analyses by means of mathematical tools, with the purpose of establishing causal relationships. These knowledge-driven models have been described as "scientific approaches that create and build a coherent body of knowledge about educational processes" (Keeves, 1988, p. 170). Wittrock (1986) observed that the exciting empirical findings on effective teaching, teacher education, and school effects all emanated from such research paradigms in the field of educational psychology.

Noting the sociological, political, and ecological nature of many special education concerns, Semmel (1987) laments the field's continued reliance on the disciplines of psychology as the basic sources of theoretical guidance and stimulation. He argues that it is the nature of individual learning and behavioral differences in the context of social sciences which should guide the development of an instructional science for difficult-to-teach students. In recent years, action-research models have emphasized

holistic and qualitative informational and interpretive approaches to educational problem-solving (Husen, 1988).

Although much energy has been expended arguing the superiority of one approach over the other, Shulman (1988) recommends the judicious use of the variety of methods comprising educational research: historical, philosophical, case studies, ethnographic field studies, experiments, quasi-experiments, and surveys. He contends that quantitative and qualitative forms of inquiry are not merely different paths to answering the same question, but that they involve using different tools to answer different questions. Table 1 below illustrates this point. Here we select a domain of inquiry--in this case, the study of writing--and describe how questions might be framed and studies conducted through the appropriate application of the variety of research methodology available.

The study of teaching, however, is the study of a very complex enterprise. It involves the construction of appropriate learning tasks, coordination of working groups, planning and implementation of curriculum, allocation of resources and activities, and the interpretation and application of policies initiated by administrators, parents, and other stakeholders external to the classroom. None of these define teaching, yet all of them comprise teaching. And, although different facets of teaching are best studied from the perspective of particular disciplines, no one discipline is powerful enough to produce sufficient knowledge capable of achieving significant improvements in teaching.

Table 1

Application of Research Methods to Research Questions

| Research Question(s) | Methodology | Description |
|---|---|---|
| Why are some students successful writers while others are not?<br><br>How can we predict which which students are going to experience difficulty in learning to write? | Correlational | The relationship between predictors (identified through demographic data, personal school history data, etc.) and student performance measures on a variety of tasks are investigated. |
| What are the best possible methods for teaching writing to students? | Experimental<br>Quasi-experimental | Students are assigned to groups and provided with contrasting methods of instruction. Performance of contrasting groups are assessed. |
| What is the general level of writing performance across different groups in the population? | Survey | Mail surveys, telephone surveys, or face-to-face interviews are used to obtain information about writing performance from the target populations. |
| How is writing instruction carried on in classrooms?<br><br>What are the rules which underlie instruction?<br><br>What are the experiences of teachers and students? | Case Study | Planned observations, interviews, work samples and/or videotaped excerpts are collected in natural settings to study a particular classroom or small number of classrooms. |

Consequently, we believe that there is a need for research which is purposefully and carefully planned to address a coordinated set of research questions around enduring problems of teaching practice. It is likely that such projects will involve the employment of diverse methodology and will require cooperative

approaches by researchers from different disciplines. The following is one hypothetical case in point.

> Tracking is a common practice in high schools today. Approximately 30% of all ninth graders are enrolled in low track mathematics classes, commonly referred to as General Mathematics. For many of these students, it is the only mathematics course they take in high school. Such limited background in mathematics restricts future college and career choices. A disproportionate number of these students are female, poor, and non-white, which has caused some professionals to question whether social discrimination is a factor in student placement.
>
> Teachers and researchers working together to improve teaching and learning for at-risk students have, through their discussions, identified general mathematics classes as an important site for study and have posed the following questions:
>
> 1. How do students get into general math courses?
> 2. Can we predict which students are likely to end up in general mathematics?
> 3. What are their experiences once enrolled?

The investigation of these questions requires three distinct methodological approaches--namely; survey, correlational, and case study. Normally, researchers who specialize in these different approaches do not work on interdisciplinary teams together, but if they were to form such collectives to study school-based problems of practice, the resultant products should lead to more thorough and refined understandings of the phenomenon under study and more powerful, multi-pronged approaches for addressing problems.

In addition, we must re-examine the traditional roles associated with the terms "researcher" and "teacher." The study of teaching should be a collaborative enterprise, one in which

researchers work **with** teachers rather than conduct research **on** them. Research should emanate from practice and should use the concerns, problems, insights, and activities of practitioners as the starting point. Practitioners of many kinds--general education teachers, special education teachers, teacher educators, and teacher candidates--together with their researcher colleagues, should be involved in designing and conducting disciplined investigations of the problem and assessing the results. The new knowledge derived from these investigations should then be returned to this same domain of practice by informing judgments and improving teaching and learning. In essence, what we are calling for is the establishment of communities of lifelong learners where each participant contributes a unique set of skills and expertise to the enduring problems of practice.

In sum, we hope that practitioners and their needs will influence the substance and form of educational research just as profoundly as we hope educational research will influence educational practice.

## Conclusion

The challenges posed by society's need to educate the next generation of Americans to function successfully in a knowledge age society and the changing demographic shifts in the population heighten the need to link research and practice in powerful and enduring ways. No longer is it appropriate to view the researcher as the producer of knowledge and the teacher as the consumer of knowledge; no longer is it acceptable to view the teacher educator

as the individual who assumes primary responsibility for the preparation of teachers and the researcher as the individual who studies them.

Such dichotomies have been, in large measure, responsible for the current gap which exists between research and practice. The law of proximal variables states that the closer a variable is to an outcome of interest, the higher the probability is of the former directly impacting on the latter. This emphasizes the centrality of the school site and the classroom teacher in addressing the challenges which lie ahead. As new school structures emerge and new school-based practices evolve, they must be subjected to critical analyses. These new alternatives must be developed and validated through practitioner-researcher partnerships if an ecologically valid, empirically based instructional science is to evolve to meet the educational needs of difficult-to-teach students at the school site level.

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